INSTALL LINUX

You can install Red Hat Linux 8 on your computer using the Red Hat Linux CD-ROM installation discs. You can also obtain Linux from many different sources other than Red Hat. However, the simplicity of the Red Hat installation process with version 8 appeals to many users.

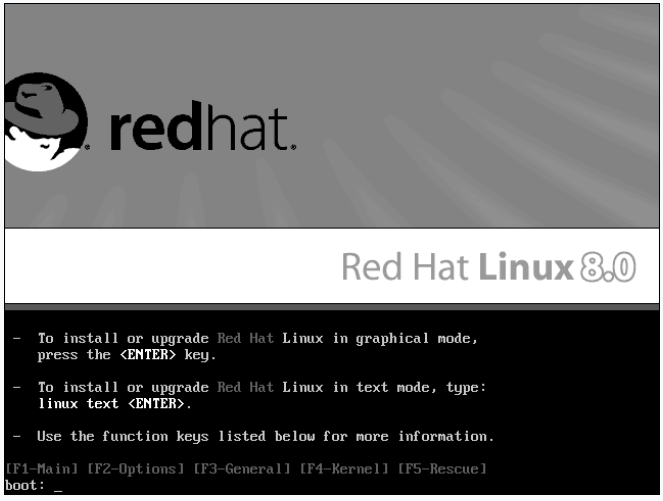
In the past, many users found the overly complex method of installing Red Hat Linux 8 confusing compared to other operating systems. Red Hat Linux 8 now uses an installation process that simply prompts the user for information and then completes the installation automatically. The installation of Red Hat Linux 8 is so straightforward that it is possible to install Red Hat Linux without looking at a manual or textbook.

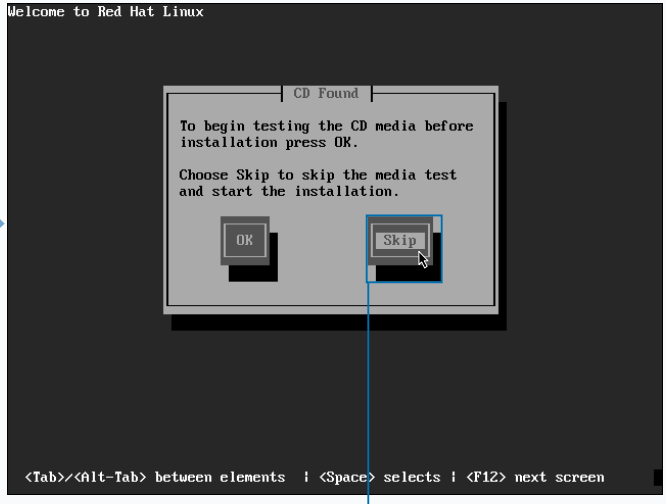
Disc 1 of the Red Hat Linux CD-ROM installation set is bootable and requires that your CD-ROM drive allow your computer to boot from a CD-ROM. To enable booting from the CD-ROM drive, refer to the documentation for your computer.

Once you boot your computer from Disc 1, the Red Hat Linux installation program offers you a choice of two installation modes, graphical or text. Although some computers only allow you to install Linux using text mode, most newer computers allow you to install Linux using graphical mode. Graphical mode installation displays the installation process menus and prompts in a graphical environment.

Once the installation process begins, a prompt appears asking you to choose a language for Linux to use during and after the installation process. The default setting is for the English language. After you select a language, a prompt appears asking you to select the keyboard configuration for your computer. The default selection, the U.S. English layout type, is the most common.

INSTALL LINUX





1 Start your computer and immediately insert Disc 1 of the installation set.

Note: Make sure your computer is set up to boot from a CD-ROM.

■ The installation options screen appears.

2 Press Enter to start the graphical mode installation process.

■ The CD media test window appears.

3 Select the Skip button and press Enter.

Extra

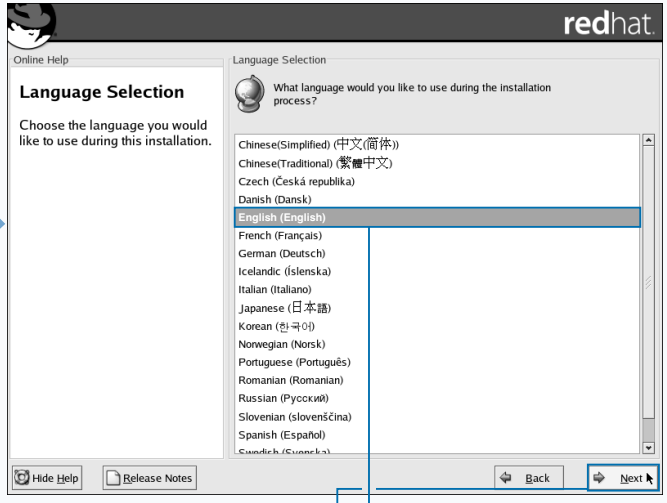
Depending on the programs and configuration you choose to install for Red Hat Linux, the installation could take an hour or more. Allow yourself enough time to complete the installation properly. You may have to insert additional CD-ROMs, so you must be present for the duration of the installation process or check back periodically.

You can choose to install Linux using a text-based installation process if your computer has limited video capabilities, or if you experience video problems while installing Linux in graphical mode. To do this, type **text** and press Enter at the boot: prompt of the installation options screen.

Before you start to install any operating system, you should take the time to complete an inventory of your computer hardware. You should make note of the devices and main components of your computer, such as hard drive and modem types, as well as any settings associated with the devices. An example would be the serial port to which your modem connects. If you already have an operating system on your computer, refer to the system documentation to determine your computer hardware settings.

■ The Welcome screen appears.

4 Click Next to continue.



■ The Language Selection screen appears.

5 Select the language you want to use while installing Linux.

6 Click Next to continue.

CONTINUED

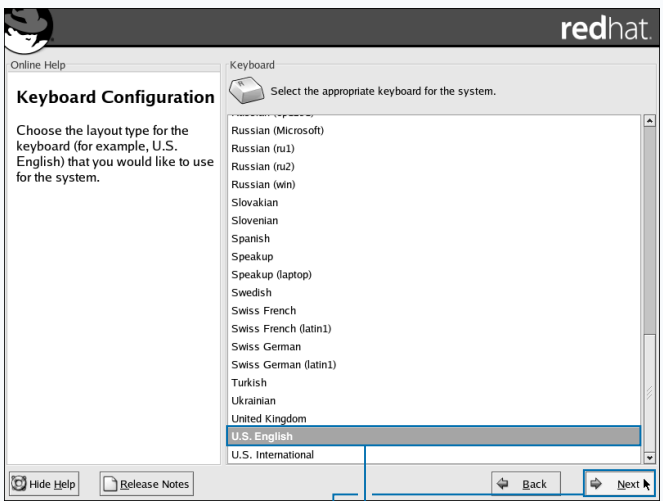
INSTALL LINUX (CONTINUED)

When you install Red Hat Linux, you must indicate the type of mouse that you are using with your computer. If you cannot find your mouse type in the list, you can simply choose a generic mouse type that best matches the description of your mouse.

You can choose from four different Linux installation options: a workstation, a server, a personal desktop, or a custom configuration. The workstation option installs the files and programs that your computer would require in a typical business setting. The server option is for a computer that you use as a network server, or for the installation of more advanced software. The personal desktop option is suitable for most home users. The custom option allows you to configure the installation to match your requirements. For most users, the personal desktop option is adequate.

Before installing Linux, you may need to partition the hard drive of your computer. The Linux installation program can automatically partition the hard drive for you. Users who are more familiar with the Linux operating system can also choose to partition the hard drive manually. When you manually partition your hard drive, you can specify what type of file systems and what partition sizes you wish to use. You can use either the Disk Druid or the fdisk program to manually partition your hard drive. Experienced Linux users prefer fdisk, while intermediate users prefer Disk Druid.

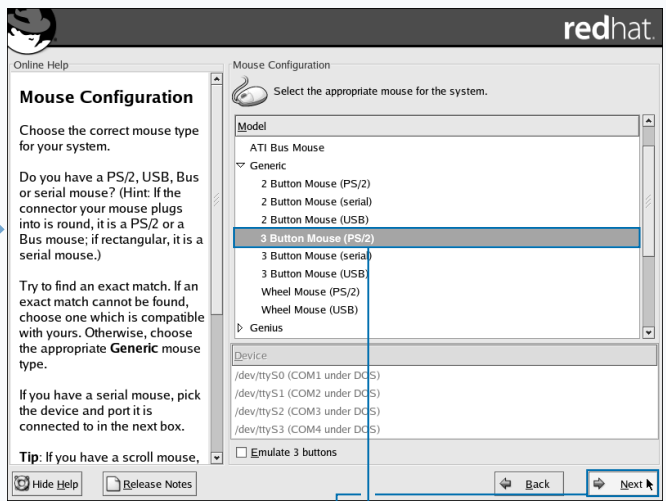
If you are installing Linux for the first time, it is easier to install Linux on a clean computer that contains no other operating systems. Before erasing any information on your hard drive, the Linux installation program asks you to confirm that you want to erase the data.



■ The Keyboard Configuration screen appears.

7 Select the keyboard configuration you want to use.

8 Click Next to continue.



■ The Mouse Configuration screen appears.

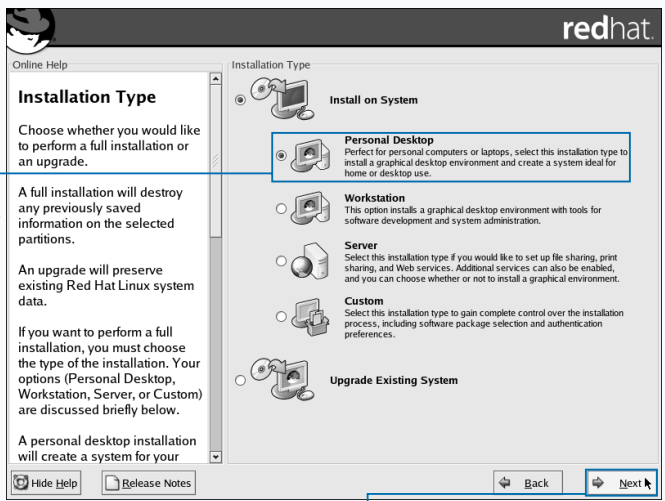
9 Select the mouse type for your computer.

10 Click Next to continue.

Extra

Some mouse manufacturers may have mouse drivers available specifically for the Linux operating system. You can install these mouse drivers after installing Linux. Refer to the manufacturer information that comes with your mouse to determine whether a Linux driver is available for your mouse.

If you already have an older version of the Linux operating system on your computer, you can upgrade the existing operating system instead of completely replacing it. Upgrading a Linux system preserves all your information after installation. For more information, see page 14.

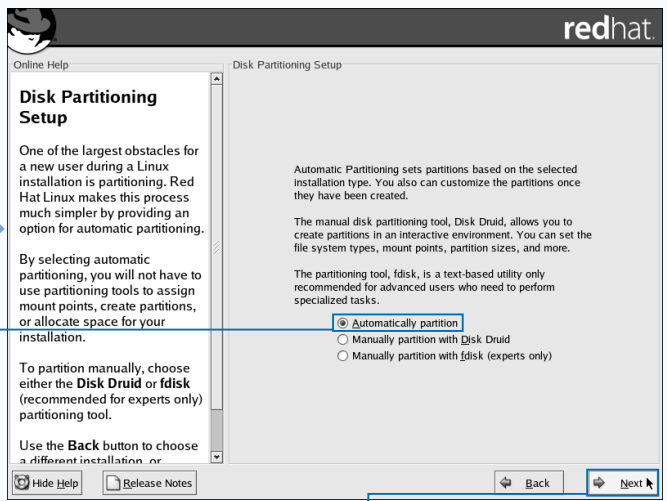


■ The Installation Type screen appears.

11 Select the type of installation you want (◯ changes to ◉).

12 Click Next to continue.

Note: For more information about the upgrade installation option, see page 14.



■ The Disk Partitioning Setup screen appears.

13 Select the disk partitioning setup you want to use (◯ changes to ◉).

14 Click Next to continue.

■ A warning might appear stating the process may delete information from your hard drive. Click Yes to continue.

CONTINUED

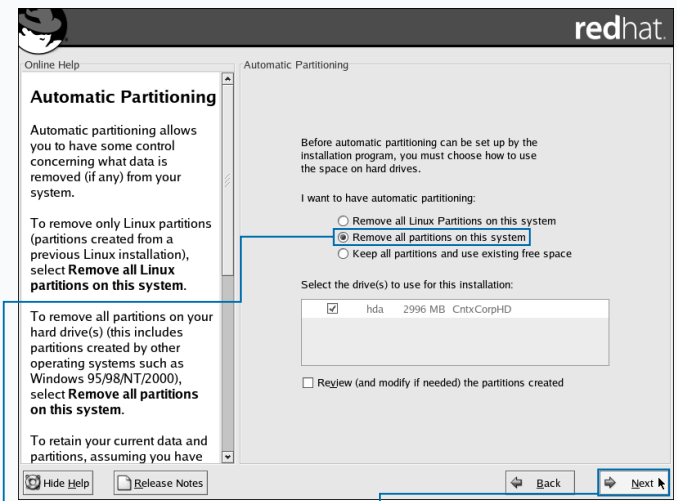
INSTALL LINUX (CONTINUED)

Before you choose the automatic partitioning option in the Red Hat Linux installation program, you must decide how you want the program to deal with any existing partitions on your hard drive. If you have an existing Linux installation that you want to replace, you can instruct the installation program to remove the existing Linux partitions. If you are performing a new Linux installation, you can have the program remove all the existing partitions on your hard drive. If you have partitions on your hard drive that you want to keep, you can leave the partitions intact and use the remaining free space on the hard drive to install Linux. Most users who are new to Linux may want to completely remove all partitions from their hard drive and have Linux automatically partition the hard drive.

You can choose to preview the results of automatic partitioning before the automatic partitioning program applies the partitioning process to your hard drive.

Linux allows you to use a program called a boot loader to select from multiple operating systems and multiple versions of Linux when the computer starts. Linux can use the GRUB or LILO boot loader, or no boot loader at all, which is installed by default. For most installations, you can use the GRUB boot loader. Even if you have only one operating system, you should install the GRUB boot loader to allow you to customize your Linux system later.

If you choose to install a third-party boot loader, you should review the information that accompanies the boot-loader installation software.

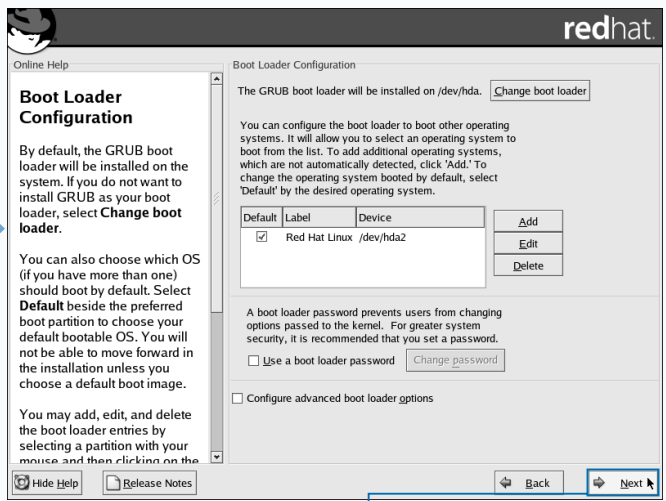


■ The Automatic Partitioning screen appears.

15 Select the automatic partitioning option that you want (◯ changes to ◉).

16 Click Next to continue.

■ A warning might appear stating that you are about to delete information on the hard drive. Click Yes to continue.



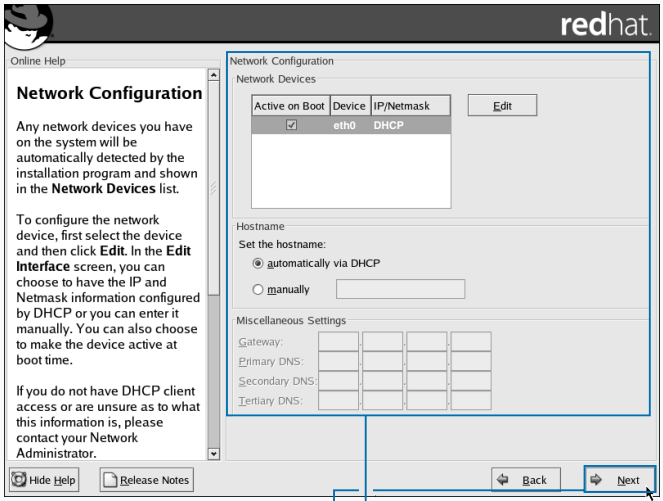
■ The Boot Loader Configuration screen appears.

17 Click Next to continue.

Extra

If you are creating a dual boot system using Linux and another operating system, you should install the other operating system first, and on a separate partition. You can then use automatic partitioning to leave the existing partition with the other operating system intact and use the remaining disk space for Linux. You must ensure that the partition on which the other operating system resides does not take up all of your hard drive.

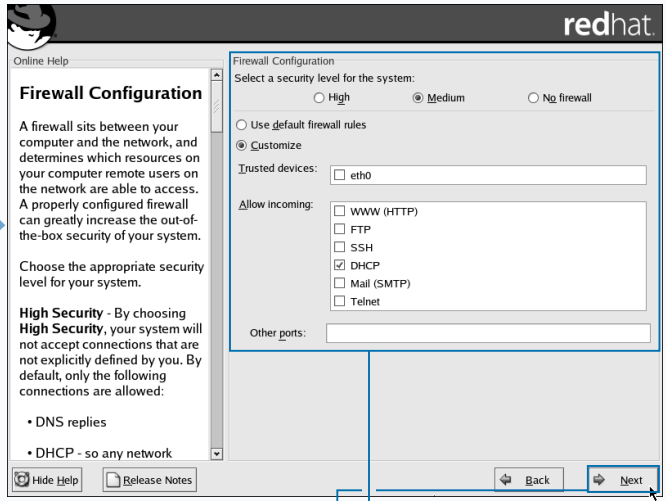
If you already have an operating system on your computer, you may be able to create a dual boot system that allows you to use either Linux or the other operating system. When creating a dual boot system, always install the other operating system before Linux, and allow the installer to automatically partition the disk drive.



■ The Network Configuration screen appears.

18 Make any necessary changes.

19 Click Next to continue.



■ The Firewall Configuration screen appears.

20 Select your desired firewall settings.

21 Click Next to continue.

CONTINUED

INSTALL LINUX (CONTINUED)

If your computer has a network interface, in the form of a built-in network adapter or a network interface card, you can configure some of the network settings during the installation process. When you select a device such as a network interface card, the installation program registers the card as a device called eth0. By default, the program configures the device to activate when you start your computer, a setting that is suitable for most users.

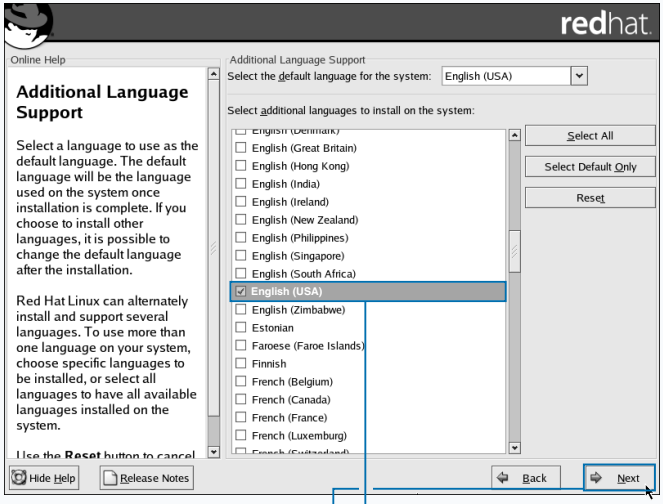
Computers that connect to a network can use a protocol called DHCP to automatically obtain network information, such as computer names and IP numbers, which identify the computers on the network. If your computer network does not use DHCP, you should contact your computer administrator to obtain your network settings.

A firewall is software that restricts network access to your computer. The installation process allows you to configure and install firewall software. For most installations, the default firewall setting is adequate.

Each Linux operating system has an account called root, which is the master account for the computer. You use the root account to configure the Linux system, install applications, and create user accounts. You must assign a password to the root account during the installation process. Because the root account is used for so many important administrative functions, you should be careful when choosing a password for the account.

During installation, you should create at least one user account. This account is separate from the root account.

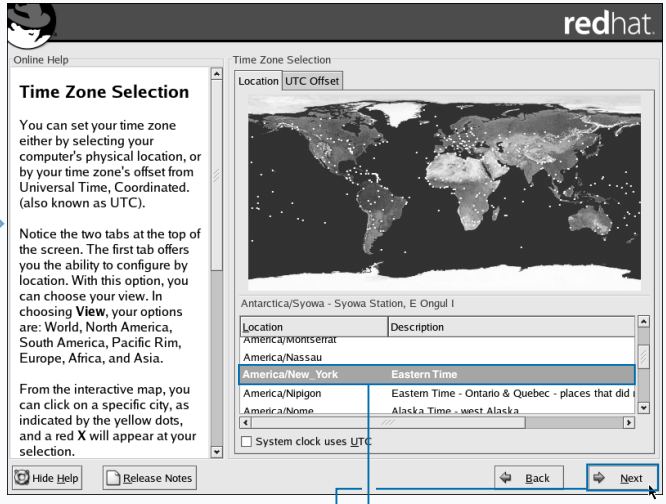
INSTALL LINUX (CONTINUED)



■ The Additional Language Support screen appears.

22 Select any additional languages you want to use (☐ changes to ☑).

23 Click Next to continue.



■ The Time Zone Selection screen appears.

24 Select your time zone.

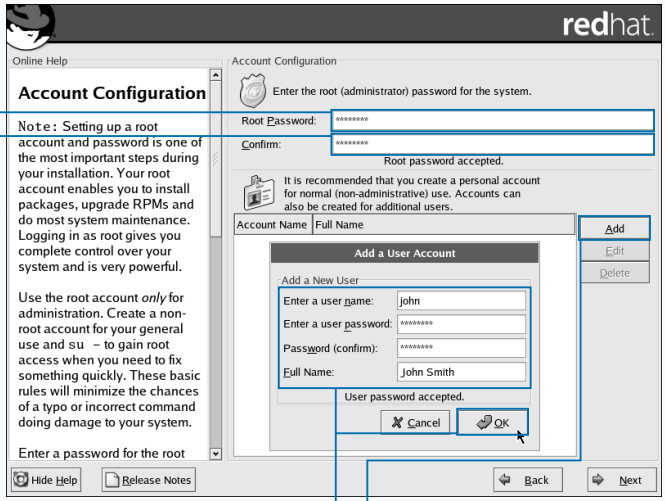
25 Click Next to continue.

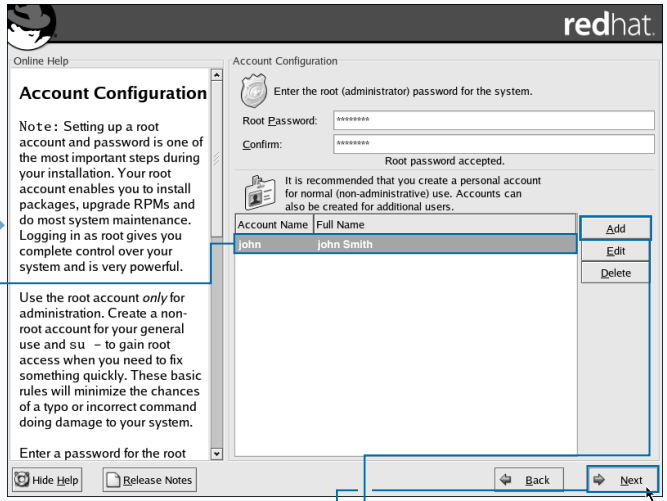
Extra

You can choose to configure your network firewall settings during the installation procedure to allow or deny certain protocols. Protocols are normally associated with a specific network task; for example, you use the FTP protocol to send and receive files.

PROTOCOL	ASSOCIATED WITH
WWW	Accessing the World Wide Web.
SMTP	Sending e-mail messages.
POP	Receiving e-mail messages.
TELNET	Remotely connecting to a computer.
SSH	Remotely connecting to a computer using a secure connection.

You can choose the hostname of your computer when you install Linux. In some cases, such as when you use a cable modem, you may have to indicate a specific hostname. If you do not specify a name for the computer, the computer assigns the name `localhost`, which has been assigned by your service provider.





■ The Account Configuration screen appears.

26 Type the password for the root account.

27 Retype the password for the root account to confirm the password.

28 Click Add to create a non-root account.

29 Type the information for the user account.

30 Click OK.

■ The non-root user account appears.

■ You can setup additional non-root accounts by clicking Add and following steps 28 to 30.

31 Click Next to continue.

CONTINUED

INSTALL LINUX (CONTINUED)

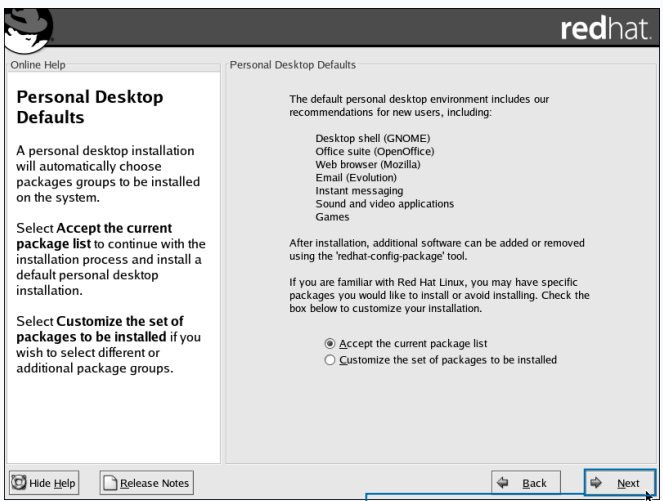
You can create a Linux boot disk during the installation process that can later help you to recover data from a malfunctioning computer. While optional, it is recommended that you create a boot floppy to better protect the information stored on your computer. In many cases, if you have a problem with the hard drive on a Linux system, a boot floppy will be your only method of booting your system or recovering the information you have on the computer.

To create a bootable floppy, you will need a high-density disk and a functioning floppy disk drive that was recognized by Linux during installation. Any information on the diskette you choose will be overwritten; so, if you are using a previously used diskette, ensure you have a copy of any needed data that may be on the diskette.

A boot disk will only be able to provide you with access to the Linux system on the computer with which you use the boot disk. You will not be able to use graphical applications or the graphical desktop environment when you are booting from a boot floppy.

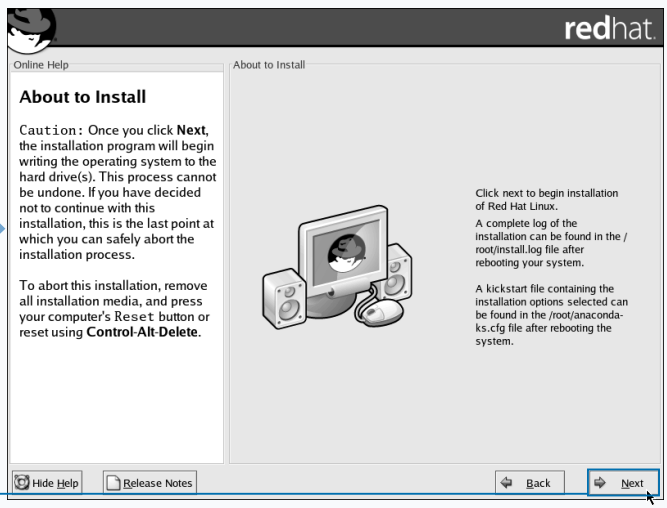
You should store the boot floppy in a location away from the Linux system to provide some degree of protection in the event of damage, such as electrical problems.

INSTALL LINUX (CONTINUED)



■ The Personal Desktop Defaults screen appears, displaying a summary of items that Linux recommends that you install.

32 Click Next to continue.



■ The About to Install screen appears.

33 Click Next to continue.

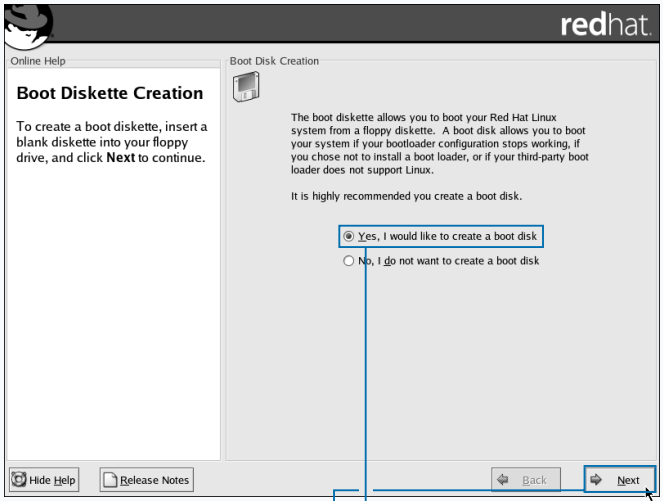
■ Linux performs the installation. If the installation requires additional CD-ROMs, the program prompts you to insert them as needed.

Extra

After you have set up and configured your Linux system, it is recommended that you boot the system using the boot disk to ensure that the boot disk works and that you can access the Linux system. Testing the boot disk will ensure that the boot floppy works before you actually have to use it.

Although you should have one boot disk for each Linux system to which you have access, you can use the boot floppy to access different versions of Red Hat Linux on other computers.

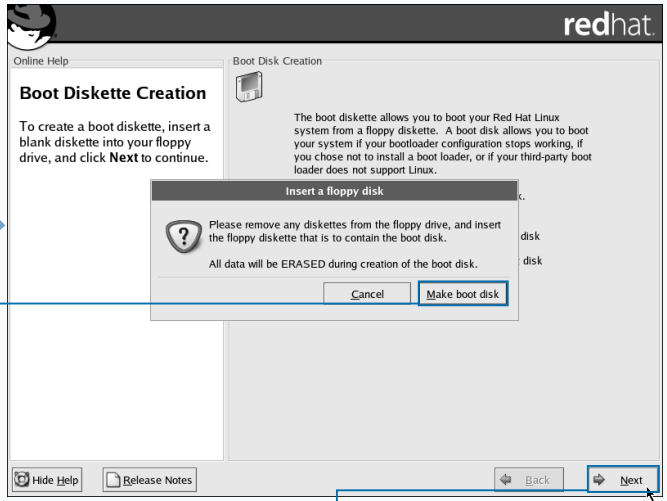
If you do not have a bootable floppy diskette, you can use the Red Hat Linux CD-ROM disc 1 to start the Linux system in rescue mode. For more information about booting rescue mode, see Chapter 17.



■ After the software installation, the Boot Disk Creation screen appears.

34 Select Yes, I would like to create a boot disk (◯ changes to ◉).

35 Click Next to continue.



■ A warning appears indicating the disk will be erased.

36 Insert a floppy disk into the disk drive and click Make boot disk.

■ The boot disk is created.

37 Click Next to continue.

CONTINUED

INSTALL LINUX (CONTINUED)

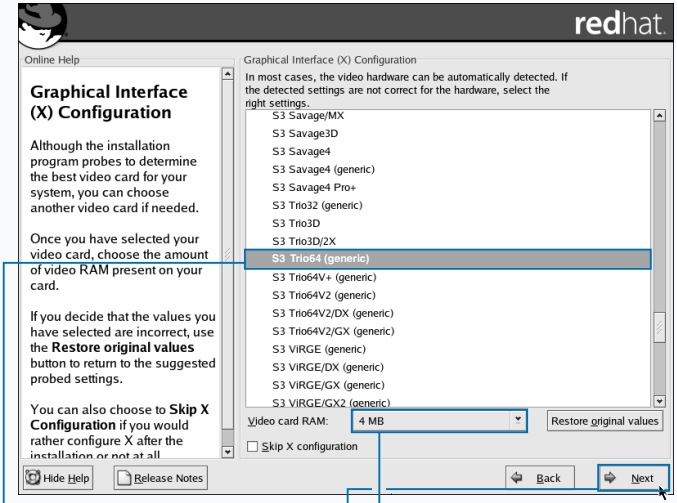
You can choose to install different software packages when you install Red Hat Linux on your computer. When you install Red Hat Linux, you also install the X graphical interface. X allows Linux to interact with you through a graphical environment that includes windows, icons, and other image interfaces. You can choose to install other graphical environments that Linux uses with the X graphical environment. GNOME, the most popular graphical environment, installs by default when you install Red Hat Linux. KDE is another graphical environment that you can install. If you install both the GNOME and KDE packages, you can switch between them as needed when you are working in the Linux graphical environment.

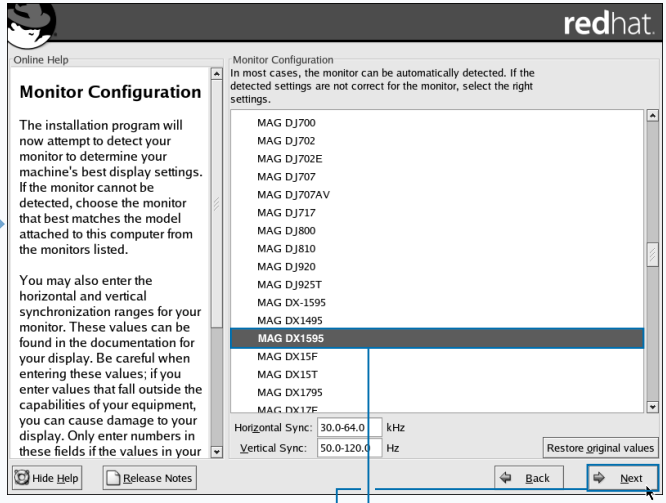
Red Hat Linux comes with other optional packages. For example, if you are going to use your computer for programming, you can install the software development package. A selection of games comes with the Games and Entertainment package.

The Linux installation program also allows you to create a boot disk. A boot disk is a floppy disk that helps you access your Linux system if the computer develops startup problems. You can also create a boot disk after you install Linux.

Your computer uses a video adapter to generate the graphical images on your monitor. You must tell Linux which video adapter your computer uses as well as the amount of video memory the video adapter requires.

Once you select the video adapter, you need to specify the monitor that connects to your computer. If the exact model of monitor is not available within the list, you can select a monitor that closely matches your own monitor.





■ The Graphical Interface (X) Configuration screen appears.

38 Select your video adapter.

39 Click the Video card RAM to select the amount of video memory on your video card.

40 Click Next to continue.

■ The Monitor Configuration screen appears.

41 Select your monitor type.

42 Click Next to continue.

Extra

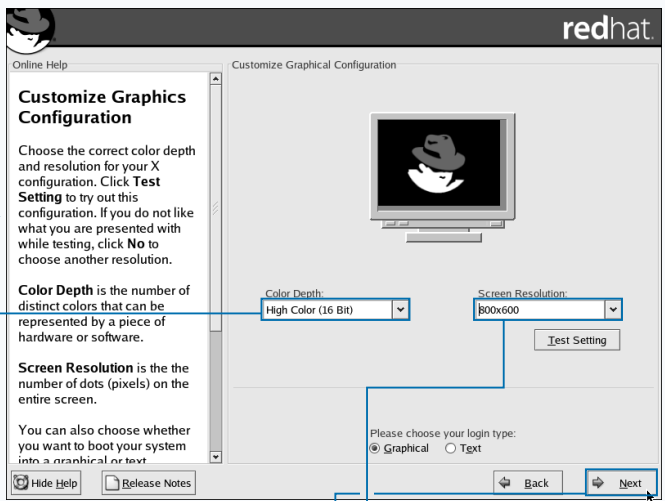
Two of the most popular graphical desktop environments, GNOME 2.0 and KDE, are available with the Red Hat Linux installation. You can choose to install one or both of these desktop environments.

GNOME 2.0

The GNOME desktop is the most popular graphical desktop environment for use on Linux systems. The GNOME desktop is extremely versatile, allowing you to alter your desktop to suit your personal preferences and work requirements. GNOME also includes many tools and applications, from simple word processors to network monitors. For more information about using GNOME, see Chapter 4.

KDE

KDE is a desktop environment that is similar in appearance and behavior to the Windows operating system. KDE also comes with a wide range of applications, including a superb suite of office applications and utilities, which contribute to the popularity of KDE. For more information about the KDE desktop, see Chapter 5.

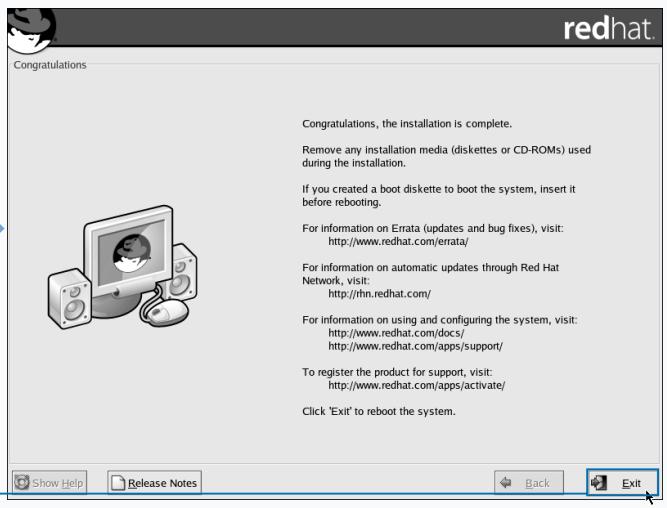


■ The Customize Graphical Configuration screen appears.

43 Click the Color Depth ▾ to select the color depth of your graphical display.

44 Click the Screen Resolution ▾ to select the screen resolution of your graphical display.

45 Click Next to continue.



■ A Congratulations message appears.

46 Click Exit to restart your computer.

Note: The Red Hat Setup Agent will appear after you restart your system to help you configure your new system.

UPGRADE LINUX

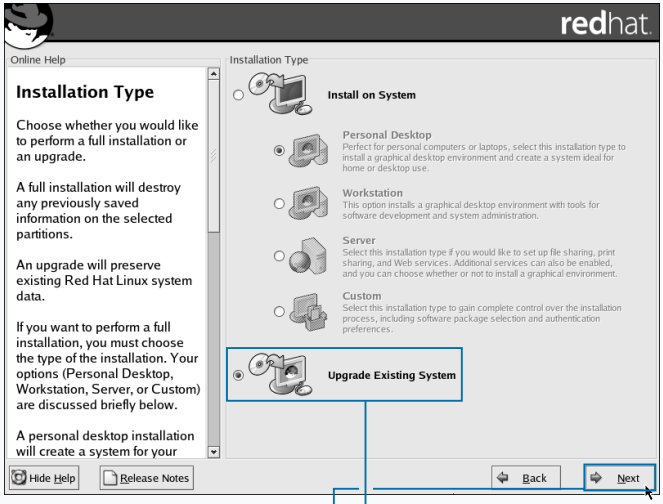
You can perform an upgrade to install a new version of Red Hat Linux over a previous version of Red Hat Linux. The difference between a new installation of Red Hat Linux and an upgrade is that when you perform an upgrade, Linux preserves settings and files, such as documents, e-mails, and graphic files that exist on your system. The actual process of upgrading an operating system is the same as installing a new copy of the operating system. When you install an upgrade, the Linux installation program determines where on your computer the current version of Linux presently exists.

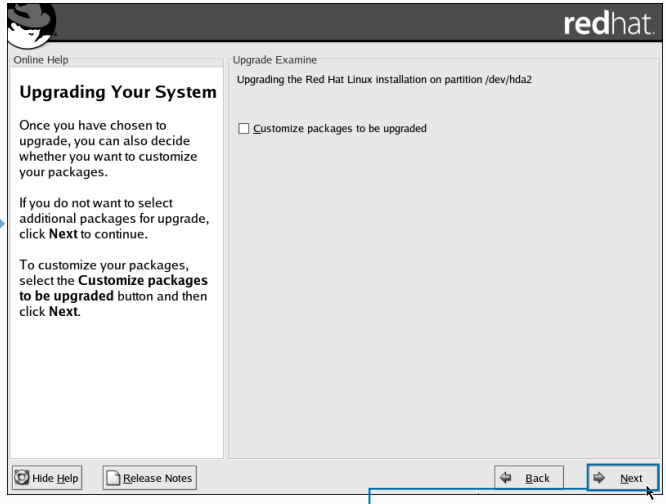
When upgrading Linux, the installation program can install a boot loader. A boot loader is a program that allows a computer to boot multiple operating systems. When you perform a system upgrade, you can update the boot loader or you can choose to install a new boot loader.

You can choose which applications and packages you want to install during an upgrade. You can also install new packages after you install Linux. For more information, see page 210.

The applications that you install when you upgrade your operating system match the configuration of the existing operating system. For example, if you installed the original version of Linux using a server configuration, then the upgrade installs the latest version of the server configuration. If you installed additional applications after the initial installation of the original operating system, then the installation program also upgrades those applications.

UPGRADE LINUX





1 Follow steps 1 to 10 on pages 2 to 4 to install Linux.

2 When the Installation Type window appears, select Upgrade Existing System (◯ changes to ◉).

3 Click Next to continue.

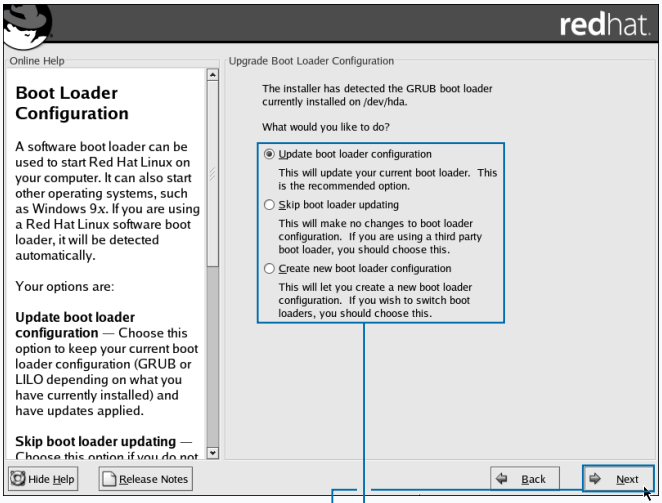
■ The Upgrade Examine screen appears.

4 Click Next to continue.

Extra

If you have updated individual applications on your system, the Red Hat Linux installation program does not update them when it installs the latest version of Linux. For example, if you are currently using the latest version of the Mozilla Web browser on an older version of Linux, when you upgrade to the latest version of Linux, Mozilla does not update. Only the applications that are older than those found in Red Hat Linux 8 will update.

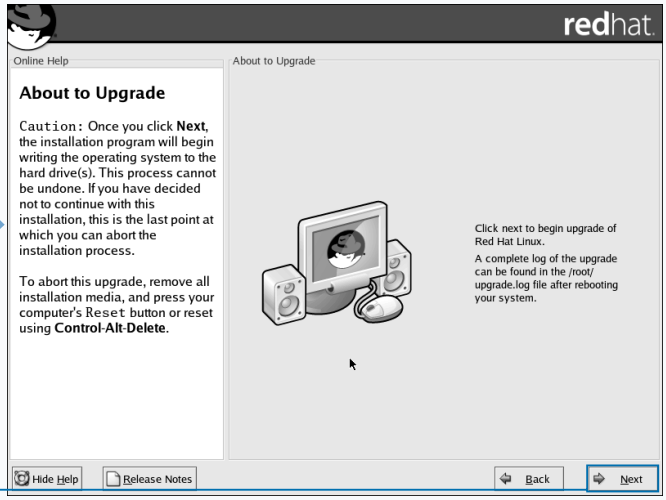
The version of Red Hat Linux that you upgrade from can be the same as the version of Red Hat Linux to which you are upgrading. You can use this technique to repair a malfunctioning operating system, while trying to preserve the data files on the system.



■ The Upgrade Boot Loader Configuration screen appears.

5 Select the type of boot loader configuration update that you want (◯ changes to ◉).

6 Click Next to continue.



■ The About to Upgrade screen appears.

7 Click Next to continue.

■ The Linux installation continues. For more details about the Linux installation, see pages 2 to 13.